GOVERNMENT OF ANDHRA PRADESH
ABSTRACT

MA&UD Department – AMRUT – SAAP for the year 2016-20 – Projects proposed under Sewerage and Septage Sector – Tenders – Selection of tenders on capital and capitalized maintenance cost for STPs – Approval – Orders – Issued.
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MUNICIPAL ADMINISTRATION & URBAN DEVELOPMENT (UBS) DEPARTMENT

G.O.MS.No. 335 Dated: 12-09-2017
Read:

From the Engineer-in-Chief, Public Health, Tadepalli, Lr. No.36 /T1 / AMRUT / Genl/2017/1, dated: 21-07-2017.

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O R D E R:-

In the reference read above, the Engineer-in-Chief (PH) has stated that the Ministry of Urban Development, Government of India have rolled out the flagship mission program of Atal Mission for Rejuvenation and Urban Transformation (AMRUT) during the year 2014 for improving the infrastructural facilities in the sectors of Water Supply, Storm Water Drains, Sewerage & Septage Management and Green spaces etc and 32 Urban Local Bodies of the State have been included in the said Scheme. The Project Development and Management Consultant/s (PDMC/s), who are envisaged as end to end consultant/s, have been appointed in order to provide effective and efficient services to the AMRUT Towns. M/s TCE and M/s AECOM Asia Company Ltd have been appointed as Project Development and Management Consultant/s for two regions. Detailed Project Reports (DPRs) for the 28 ULBs in sewerage and septage sectors have been prepared by the Consultants duly carrying out analysis on STPs. In the DPRs conventional and latest STP Technologies have been considered to establish the proposed STP in various ULBs in the available limited land space and also life cycle cost has been worked out for all suitable technologies. As per life cycle cost analysis, Sequential Batch Recor (SBR) technology is considered to be appropriate. Accordingly DPRs are prepared duly incorporating the SBR rate in the estimate after obtaining the quotations from the local market. The DPRs have been approved in the State Level High Power Steering Committee (SHPSC).

2. The Engineer-in-Chief (PH) has further stated that Government have accorded Administrative Sanction to the DPRs for the 28 ULBs having STPs of various capacities vide G.O. Ms.No. 82 MA&UD (UBS) Department, dated: 03-03-2017, G.O. Ms.No. 168 MA&UD (UBS) Department, dated: 16-05-2017, G.O. Ms.No. 186 MA&UD (UBS) Department, dated: 20-05-2017, and G.O. Ms.No. 211 MA&UD (UBS) Department, dated: 24-05-2017. Accordingly, the Engineer-in-Chief (PH) has accorded Technically Sanctions and arrived with IBM value.

3. Government of India, Ministry of Urban Development issued Advisory Guide Lines on Recent trends and Emerging Technologies in sewerage treatment. The advisory note informed that, while inviting tenders under EPC (Engineering Procurement & Construction), tender may be invited considering all the suitable conventional technologies suiting to the local conditions. The contractor / technology provider may be asked to quote the rates based on the criteria such as influent quality, effluent quality for reuse of effluent and O&M cost and ease in maintenance of the STPs etc and bids may be decided based on the evaluation of technical and financial bids. The Project Development and Management Consultant/s (PDMC/s), have also proposed bidding process based on the capital as well as maintenance cost.

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4. The Engineer-in-Chief, Public Health, Tadepalli after conducting a series of discussions with the Superintending Engineers, APUFIDC engineers, Project Development and Management Consultant (PDMC), firms and other concerned officers submitted the under mentioned Bid process.

5. Bid evaluation will be carried out in two stages first stage is Technical Bid and the second stage is the Financial Bid. Employer will open the technical bid in e-procurement platform on date specified by the tender calling authority. Technical bid will be evaluated for all the bidders based on the eligibility criteria as stipulated in the tender document. The bidders who satisfy the eligibility criteria conditions will be considered for second stage bidding. The Price bid shall be evaluated based on the capitalization cost of Capex & Opex and cost towards Energy Consumption charges. The capitalization cost shall be calculated considering:

i) Price towards CAPEX & OPEX:

   a) CAPEX – Capital Expenditure for Design, Supply, Installation, Testing & Commissioning including three months trial run with in 15 (fifteen) months period (AND)

   b) OPEX – Expenditure for Operation & Maintenance of STP for 10 (ten) years excluding the cost towards energy consumption

ii) Discounted Cash Flow towards expenditure for Energy Consumption Chares for 15 (fifteen) years of Operation & Maintenance at discounting Factor of 8%

iii) During the financial bid evaluation, the bids shall be evaluated as per the formula and procedure given in **Annexure – 1** to evaluate the lowest bid.

During Price Bid submission, the bidder shall quote either percentage increase or percentage decrease, corresponding to the IBM (Internal Bench Mark) value indicated in the tender document in the e-procurement website as per prescribed format towards the price component for:

i) CAPEX – Capital Expenditure for Design, Supply, Installation, Testing & Commissioning including three months trial run for 15 (fifteen) months (AND)

ii) OPEX – Expenditure for operation & Maintenance of STP for 10 (ten) years.

The Discounted Cash Flow towards the energy consumption shall be calculated as stipulated in **Annexure – 1**. The total price of the bidder shall be the summation price of:

   a) Price towards CAPEX and OPEX as indicated in the e-procurement platform

   b) Discounted Cash Flow towards Energy Consumption as stated in **Annexure – 1**

The successful bidder will be decided based on the lowest among the entire Bid evaluation process as stated above, subject to overall technical qualification of the bid. In this process L1 indicated in the e-procurement platform may not be the L1 after adopting the above mentioned Bid evaluation method.

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6. Government after careful examination of the above proposal, as the bidding process is as per Government of India guidelines on “Recent trends in technologies in sewerage system” issued in March 2012 and the process is rational, hereby approve the Bidding Process as envisaged under para 5 above and permit the Engineer-in-Chief, Public Health to adopt Techno – Economical evaluation of bids based on the capitalization cost of Capex & Opex and Discounted Cash Flow towards expenditure for Energy Consumption Charges for 15 years at discounting rate of 8% in STP tenders proposed under AMRUT.

7. The Engineer-in-Chief, Public Health, Tadepalli, Guntur District shall take necessary further action in the matter.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)

R.KARIKAL VALAVEN
PRINCIPAL SECRETARY TO GOVERNMENT

To
The Engineer-in-Chief, Public Health, Tadepalli, Guntur District.
Copy to:
The Managing Director, APUFIDC, Guntur.
Sf/Sc

//FORWARDED BY ORDER//

RESEARCH OFFICER

Annexure-1

Procedure for Bid Evaluation			
1.	Quoted figure shall be either percentage increase or percentage decrease corresponding to the IBM (Internal Bench Mark) value indicated in the NIT, in the e-procurement website as per prescribed format in Volume IV, Schedule A, towards the price component for: a) CAPEX - Price for Design, Supply, Installation, Testing & Commissioning including three months trial run AND b) OPEX - Price for Operation and Maintenance from **1st to 10th year**	INR	**A**
2)	Energy Consumption in kWh for **1st to 15th year** as furnished in the Data Sheet – 13 and Data Sheet – 13 A of Volume – III shall be captured as under:	**KWh / Year**	
i)	Energy Consumption for 1st year O&M	E_1	KWh
ii)	Energy Consumption for 2nd year O&M	E_2	KWh
iii)	Energy Consumption for 3rd year O&M	E_3	KWh
iv)	Energy Consumption for 4th year O&M	E_4	KWh
v)	Energy Consumption for 5th year O&M	E_5	KWh
vi)	Energy Consumption for 6th year O&M	E_6	KWh
vii)	Energy Consumption for 7th year O&M	E_7	KWh
viii)	Energy Consumption for 8th year O&M	E_8	KWh
ix)	Energy Consumption for 9th year O&M	E_9	KWh
x)	Energy Consumption for 10th year O&M	E_{10}	KWh
xi)	Energy Consumption for 11th year O&M	E_{11}	KWh
xii)	Energy Consumption for 12th year O&M	E_{12}	KWh
xiii)	Energy Consumption for 13th year O&M	E_{13}	KWh
xiv)	Energy Consumption for 14th year O&M	E_{14}	KWh
xv)	Energy Consumption for 15th year O&M	E_{15}	KWh

Procedure for Bid Evaluation			
3)	**Method of Evaluation:** Evaluation will be done following NPV method to arrive the discounted cash flow towards energy consumption for 15 (fifteen) years considering:		
i)	Discounting factor ' r ' = 8%		
ii)	n = no. of years for determining discounted cash flow for energy consumption	**Year**	**Factor calculated for discounted cash flow**
iii)	Discounted cash flow factors for years 1,2,3,....n are taken as $d_{1.0,}$ $d_{1.25,}$ $d_{2.25}$..... $d_{16.25}$ where $d_n = {}^{1}/_{(1+(r/100))^{n}}$ e.g. $d_{1.25} = {}^{1}/_{(1+(8/100))^{1.25}} = 0.91$ considering, r = 8 whereas, a) n=1.0 (i.e. n=12/12) @ 12th month from the date of commencement b) n=1.25 (i.e. n =15/12) @ 15th month from the date of commencement c) n=1.25 + 1 =2.25 for 2.25th year (1st year Energy Charges for O&M) d) n=3.25 for 3.25th year (2nd year Energy Charges for O&M) e) n=4.25 for 4.25th year (3rd year Energy Charges for O&M) f) n=5.25 for 5.25th year (4th year Energy Charges for O&M) g) n=6.25 for 6.25th year (5th year Energy Charges	$d_{1.25}$	0.91
		$d_{2.25}$	0.84
		$d_{3.25}$	0.78
		$d_{4.25}$	0.72
		$d_{5.25}$	0.67
		$d_{6.25}$	0.62
		$d_{7.25}$	0.57
		$d_{8.25}$	0.53
		$d_{9.25}$	0.49
		$d_{10.25}$	0.45
		$d_{11.25}$	0.42
		$d_{12.25}$	0.39
		$d_{13.25}$	0.36
		$d_{14.25}$	0.33
		$d_{15.25}$	0.31

Procedure for Bid Evaluation			
	for O&M) h) n=7.25 for 7.25th year (6th year Energy Charges for O&M) i) n=8.25 for 8.25th year (7th year Energy Charges for O&M) j) n=9.25 for 9.25th year (8th year Energy Charges for O&M) k) n=10.25 for 10.25th year (9th year Energy Charges for O&M) l) n=11.25 for 11.25th year (10th year Energy Charges for O&M) m) n=12.25 for 12.25th year (11th year Energy Charges for O&M) n) n=13.25 for 13.25th year (12th year Energy Charges for O&M) o) n=14.25 for 14.25th year (13th year Energy Charges for O&M) p) n=15.25 for 15.25th year (14th year Energy Charges for O&M) q) n=16.25 for 16.25th year (15th year Energy Charges for O&M)	$d_{16.25}$	0.27
4)	**Discounted cash outflow towards Energy Charges (P) considering 15 (fifteen) years of operation** The electricity rate shall be used as **Rs.9/- per KWh** for tender evaluation	**Year**	**INR**
i)	2.25th year cash out flow (i.e. 1st year energy charges for O&M) = $d_{2.25} * E_1 * 9$	@ 2.25th Year	$d_{2.25} * E_1 * 9$
ii)	3.25th year cash out flow (i.e. 2nd year energy charges for O&M) = $d_{3.25} * E_2 * 9$	@ 3.25th Year	$d_{3.25} * E_2 * 9$

Procedure for Bid Evaluation			
iii)	4.25th year cash out flow (i.e. 3rd year energy charges for O&M) = $d_{4.25} * E_3 * 9$	@ 4.25th Year	$d_{4.25} * E_3 * 9$
iv)	5.25th year cash out flow (i.e. 4th year energy charges for O&M) = $d_{5.25} * E_4 * 9$	@ 5.25th Year	$d_{5.25} * E_4 * 9$
v)	6th year cash out flow (i.e. 5th year energy charges for O&M) = $d_{6.25} * E_5 * 9$	@ 6.25th Year	$d_{6.25} * E_5 * 9$
vi)	7.25th year cash out flow (i.e. 6th year energy charges for O&M) = $d_{7.25} * E_6 * 9$	@ 7.25th Year	$d_{7.25} * E_6 * 9$
vii)	8.25th year cash out flow (i.e. 7th year energy charges for O&M) = $d_{8.25} * E_7 * 9$	@ 8.25th Year	$d_{8.25} * E_7 * 9$
viii)	9.25th year cash out flow (i.e. 8th year energy charges for O&M) = $d_{9.25} * E_8 * 9$	@ 9.25th Year	$d_{9.25} * E_8 * 9$
ix)	10.25th year cash out flow (i.e. 9th year energy charges for O&M) = $d_{10.25} * E_9 * 9$	@ 10.25th Year	$d_{10.25} * E_9 * 9$
x)	11.25th year cash out flow (i.e. 10th year energy charges for O&M) = $d_{11.25} * E_{10} * 9$	@ 11.25th Year	$d_{11.25} * E_{10} * 9$
xi)	12.25th year cash out flow (i.e. 11th year energy charges for O&M) = $d_{12.25} * E_{10} * 9$	@ 12.25th Year	$d_{12.25} * E_{11} * 9$
xii)	13.25th year cash out flow (i.e. 12th year energy charges for O&M) = $d_{13.25} * E_{10} * 9$	@ 13.25th Year	$d_{13.25} * E_{12} * 9$
xiii)	14.25th year cash out flow (i.e. 13th year energy charges for O&M) = $d_{14.25} * E_{10} * 9$	@ 14.25th Year	$d_{14.25} * E_{13} * 9$
xiv)	15.25th year cash out flow (i.e. 14th year energy charges for O&M) = $d_{15.25} * E_{10} * 9$	@ 15.25th Year	$d_{15.25} * E_{14} * 9$
xv)	16.25th year cash out flow (i.e. 15th year energy charges for O&M) = $d_{16.25} * E_{10} * 9$	@ 16.25th Year	$d_{16.25} * E_{15} * 9$
	Summation of Sl. No. 4 (i to xv) **Discounted cash outflow towards Energy Charges for 15 (fifteen) years = P**	**INR**	**P**

Procedure for Bid Evaluation			
5)	**Total Evaluated Price =** i) Price towards CAPEX and OPEX i.e. Supply & Installation Cost and the O&M Cost for 10 (ten) years (A) **AND** ii) Discounted cash outflow towards Energy Charges for 15 (fifteen) years at a discounting factor of 10% per annum (P)	**INR**	**A + P**
	Total Evaluated Bid Price	**INR (A + P)**	

R.KARIKAL VALAVEN
PRINCIPAL SECRETARY TO GOVERNMENT